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Pregnancy intention, ambivalence, and contraceptive use in Community Health Center (CHC) populations

Tishra Beeson[1], Jenna Kress[1], Janelle Wylie[2], Susan F. Wood[2]

[1]Central Washington University Department of Health Sciences, Ellensburg, WA **tbeeson@cwu.edu** [2]The George Washington University Milken Institute School of Public Health, Washington, DC

Abstract

Introduction: Understanding the complexity of pregnancy intentions and resulting behaviors is essential to ensuring high quality, patient-centered reproductive health services that meet the needs of women and their partners. Community Health Centers (CHCs) play an important role in providing family planning care for traditionally underserved women, who may be at increased risk of experiencing unintended pregnancy. This study presents emerging findings on pregnancy intentions, ambivalence, and contraceptive behaviors among patients in CHC settings.

Methods: This study employed a national survey (n=1,557) of women of reproductive age (18-44 years), sampled from 19 different CHC sites. The survey gathered information on patient characteristics, experiences with care, decision-making criteria and utilization of contraceptive services. Pregnancy intention was measured using the One Key Question®.

Results: Approximately 12% of women reported that they wanted to become pregnant in the next year, while 88% were not actively seeking to become pregnant. Nearly 30% of those who did not desire a pregnancy reported not using contraception at the time of the survey. 1-in-4 women were pregnancy ambivalent and used contraception at approximately the same rates as women seeking to become pregnant.

Conclusions: Women who express pregnancy ambivalence use contraception at similar rates to those who intend to become pregnant in the next year, potentially increasing their risk for unintended pregnancy. Understanding the characteristics and behaviors of underserved patients across different pregnancy intentions may help ensure that women receive the information, services, and support they need to achieve their reproductive health goals.

Keywords: pregnancy intentions, family planning, community health centers, CHC, One Key Question®

Introduction

With nearly half of all pregnancies in the United States considered to be unintended, understanding the scope and complexity of pregnancy intentions and their effect on family planning outcomes remains a prominent issue in the United States (Department of Health and Human Services, 2019; Santelli, Lindberg, Orr, Finer & Speizer, 2009). Unintended pregnancy has classically been defined as unwanted or mistimed pregnancies, however more recent efforts have recognized the importance of expanding these definitions to include pregnancy ambivalence, when a woman is uncertain

about whether she would like to become pregnant or not, when a pregnancy occurs earlier than desired, or when inconsistent responses are reported (Higgins, Popkin & Santelli, 2012; Santelli et al., 2003; Santelli et al., 2009). Women who express pregnancy ambivalence are less likely to report using contraception and more likely use less effective contraceptive methods, or to discontinue contraception use for an extended period of time, putting them at a higher risk for unintended pregnancy and its associated negative outcomes for both mother and infant (Frost, Singh & Finer, 2007; Higgins, Popkin & Santelli, 2012; Kavanaugh & Schwarz, 2009; Patel, Laz & Berenson, 2015; Schwarz, Lohr, Gold & Gerbert, 2007).

Screening for pregnancy intention optimizes opportunities for healthcare providers to deliver comprehensive education, counseling and health services that support each individual's decision. While screening for pregnancy intention can significantly aid in the prevention of unintended pregnancies, classical measures are often collected retrospectively, while others may inadequately capture how some at-risk populations conceptualize the idea of pregnancy intention and planning (Borrero et al., 2015; Fischer, Stanford, Jameson & DeWitt, 1999; Kost & Lindberg, 2015; Mumford et al., 2016). Scholars have challenged the use of retrospective studies as exclusive assessments of pregnancy intentions and ambivalence as they may result in biased estimates since mothers are asked to recall their pre-contraception pregnancy desires (Aiken & Potter, 2013; Bachrach & Newcomer, 1999; Borrero et al., 2015; Schwartz, Peacock, McRea, Seymour, & Gilliam, 2010; Santelli et al., 2003). Furthermore, literature has called for the need to expand the definition of pregnancy intention beyond

the dichotomous 'wanted', 'unwanted', and 'timed' or 'mistimed' classification (Kavanaugh & Schwarz, 2009). Yet, a consistent, standardized measure of pregnancy ambivalence has not been widely accepted or validated, with many traditional measures exhibiting a considerable potential for misclassifying patients' actual pregnancy intentions (Gómez, Arteaga, Villaseñor, Arcara, & Freihart, 2019; Mumford et al., 2016).

In 2014, the Centers for Disease Control and Prevention (CDC) and the U.S. Office of Population Affairs (OPA) released, *Providing Quality Family Planning Services,* establishing the recommendation that practitioners regularly engage patients in discussions about their reproductive life plans. However, research on optimal instruments and measurement tools for reproductive life planning offers limited recommendations for how to operationalize this in clinical service delivery, despite support from various provider groups (American College of Obstetricians and Gynecologists' [ACOG] Committee of Health Care for Underserved Women, 2016; CDC, 2014).

One promising tool for prospective screening of pregnancy intention is the One Key Question® (OKQ). OKQ encourages clinicians to ask eligible patients if they would like to become pregnant in the next year, and permits the responses of 'Yes', 'No', 'I don't know' and 'I'm okay either way.' This screening technique is intended to offer healthcare practitioners insight into patients' pregnancy intentions in order to deliver tailored family planning care that considers individual reproductive health goals that correspond with the patient's OKQ response (Allen, Wood & Beeson, 2017). Despite its utility, empirical evidence on OKQ's feasibility and effectiveness among

populations who may be at risk for unintended pregnancy is only just emerging (Baldwin, Overcarsh, Patel, Zimmerman, & Edelman, 2018; Callegari, Aiken, Dehlendorf, Cason & Borrero, 2017; Hipp, Carlson, McFarlane, Sentell, & Hayes, 2017).

Community health centers (CHCs) represent the largest primary care delivery system for low-income and other underserved patients in the U.S. – including the 6.2 million women of reproductive age who were served by a CHC in 2016 (Bureau of Primary Health Care). Studies have found that while virtually all CHCs offer some degree of family planning services, the scope and organization of this care vary significantly across CHC settings (Wood et al., 2015). Few studies have focused on CHC patients' experiences receiving primary care, and no study has specifically explored the assessment of pregnancy intention and family planning needs among women receiving care in CHCs despite health centers' commitment to delivering tailored reproductive health care to women and their partners. (Becker et al., 2009; Radecki & Bernstein, 1989; Roby, Rosenbaum, Hawkins & Zuvekas, 2003). The purpose of this study is to examine how women define their pregnancy intentions – including pregnancy ambivalence – and how these intentions might correlate with contraceptive behaviors. Finally, we also discuss key correlates of pregnancy intention and pregnancy ambivalence to understand the population of women receiving care in community-based settings who may be at risk of an unintended pregnancy.

Methods

This study employed a national survey of women of reproductive age, sampled from 19 different community health center sites during the 2014

calendar year. An original survey instrument was developed and pilot-tested in two sites in order to gather information on the following domains: (1) characteristics of patients who received family planning and reproductive health services at CHCs, (2) patient decision-making criteria for obtaining family planning and reproductive health services in CHCs, (3) patient experience with family planning and reproductive health services in CHCs – including both patient barriers and facilitators of those services, and (4) the reasons why women use or do not use CHCs to receive family planning and reproductive health services. Both English and Spanish versions of the instrument were tested and fielded in the pilot sample.

The 19 CHC organizations were recruited to participate as research partner sites. These sites were purposively selected based on the following criteria:

- Patient volume larger than 10,000 patients annually
- Not a Title X Family Planning Grant recipient
- Located with 30 miles of a Title X grantee site
- Geographically representative, by urban/rural location and Census Region

Among the CHCs for which updated contact information was available, 99 sites met the inclusion criteria, and among them, 19 agreed to partner with us in this study. The partnering CHC organizations serving as research sites were sent customized survey packets with paper versions of the survey and instructions on screening and enrolling eligible patients into the study. Survey respondents were eligible if they met the following criteria: (1) female;

(2) ages 18-44 years; (3) not currently receiving prenatal or obstetric care. Sites were asked to recruit all eligible women who came to their clinic site during the fielding period (August 2014 – January 2015) until a minimum of 100 surveys were completed. Three sites submitted 50 or more complete surveys and were included in the sample despite not meeting the target number of complete responses. These sites reported low populations of eligible patients served at their health centers. Other sites reported no difficulties in recruiting participants. Patients who completed the survey were offered a $20 gift card incentive in recognition of their time and CHC sites were granted a $1,000 gift card for their role in the research study.

Because of the non-random sampling of the sites and respondents in the study, the results are not considered nationally representative. However, post-stratification survey weights were used to rake the survey data over key variables on the national universe of CHC patients as reported in the Uniform Data System. Weighting adjustments based on geographic region, race, and Hispanic ethnicity were used to improve the comparability of the survey data.

Pregnancy intention was measured using One Key Question® (OKQ), an emerging indicator of pregnancy intention developed by the Oregon Alliance for Reproductive Health (Oregon Foundation for Reproductive Health, n.d.). OKQ asks women to respond to the following, “Would you like to become pregnant in the next 12 months?” with possible response options of: *Yes, No, I’m Unsure,* or *I’m Okay Either Way*. Respondents who selected *I’m Unsure* or *I’m Okay Either Way* were coded as pregnancy ambivalent. Survey analysis included descriptive statistics of survey

respondents as well as bivariate analysis using chi-square tests of proportions to identify differences in pregnancy ambivalence by certain respondent characteristics. Finally, multivariate logistic regression models were used to determine the relationship between pregnancy intention, ambivalence, and key outcome variables such as the use of a contraceptive method. The protocols involved in this study were approved by the Office of Human Research at the George Washington University on March 26, 2014

Results

A total of n=2,034 women of reproductive age responded to the survey. The final sample of n=1,557 excluded women who may have been inadequately screened for eligibility, who were pregnant or post-menopausal at the time of the survey or who reported having a permanent sterilization. Table 1 displays the demographic characteristics of the unweighted survey sample.

Table 1: Unweighted Survey Sample Demographics (n=1,557)	n	%
Number of Sites	19	-
Participants by Region		
Midwest	138	8.9%
Northeast	132	8.5%
South	593	38.1%
West	694	44.6%
Age		
18-24	461	30.1%
25-34	654	43.3%
35-44	394	26.1%
Relationship Status		
Married	488	32.4%
Not married but living with a partner	376	25.0%

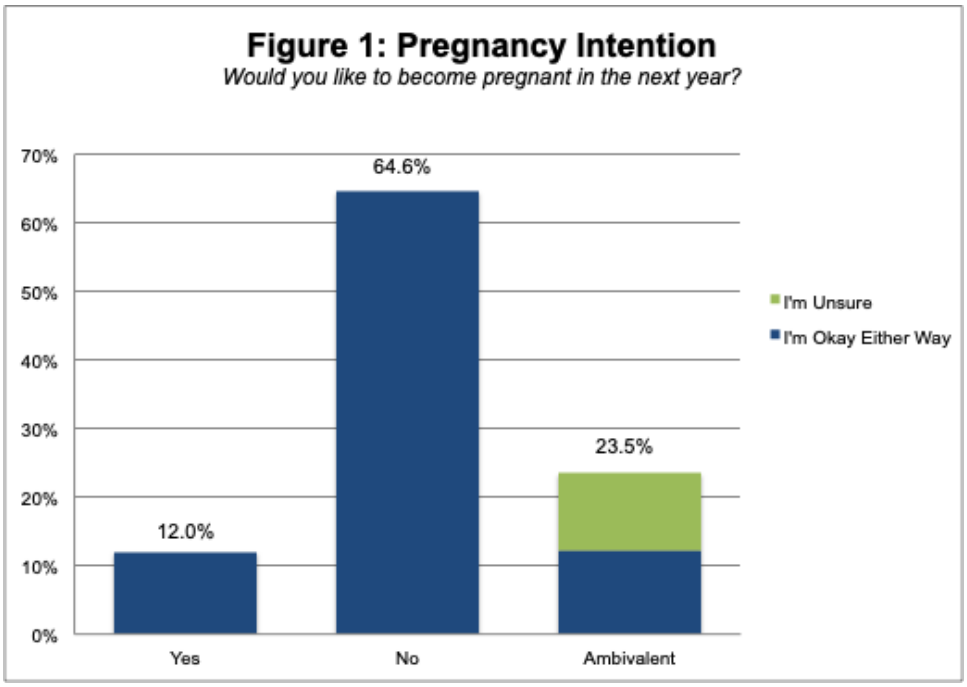
Not married	642	42.6%
Race		
White	814	52.3%
Black	273	17.5%
Other	101	6.5%
Not Reported	369	23.7%
Ethnicity		
Non-Hispanic/Latina	806	54.7%
Hispanic/Latina	662	45.3%
Survey Language		
English	1,223	78.6%
Spanish	334	21.4%
Insurance Status*		
Uninsured	388	24.9%
Medicaid	546	49.9%
Other public insurance	58	5.3%
Private insurance	388	35.4%
Other health insurance	84	7.7%
Multiple answers	19	1.7%
Most Recent Family Planning Visit		
Within last 12 months	1,018	66.1%
Within 1-3 years	331	21.5%
Within 3-5 years	75	4.9%
More than 5 years ago	117	7.6%
Location of Most Recent Family Planning Visit		
A Community Health Center (CHC)	840	54.9%
A Family Planning Clinic	258	16.9%
Somewhere Else	431	28.2%

* Insurance status proportions are taken from those respondents who reported having insurance at the time of the survey. Percentages may not add up to 100%

Pregnancy Intention and Ambivalence

Among the sample, only 12.0% of women reported that they intended to become pregnant in the next 12 months. The vast majority of women

reported not actively seeking to become pregnant at the time of the survey: 64.6% of women responded “no” when asked if they wished to become pregnant in the next year, and 23.5% of respondents expressed some form of pregnancy ambivalence (Figure 1).



Correlates of Pregnancy Ambivalence

Few significant differences were observed in women’s pregnancy ambivalence by patient demographic. Women who were not married but living with a partner exhibited higher rates of pregnancy ambivalence (29.5%) compared to married women (23.0%) and single women (19.3%; p-value = 0.025). No other differences by age, race, ethnicity, language, insurance status, or source of family planning care were observed. Regression modeling found similar results with marital status appearing to play a role in pregnancy ambivalence in the sample. Married women (OR

1.77, p-value = 0.022) and women who were unmarried but living with a partner (OR 2.11, p-value = 0.001) were more likely to report pregnancy ambivalence compared to single women. Insurance coverage also appeared to play a role, with women on Medicaid being more likely to report ambivalence about pregnancy compared to privately insured women (OR 1.64, p-value = 0.027). Race differences in pregnancy ambivalence were observed across certain sub-groups in the regression model, with Asian respondents being least likely to report pregnancy ambivalence (OR 0.08, p-value = 0.017) and American Indian-Alaska Native respondents being significantly more likely to report pregnancy ambivalence (OR 2.10 p-value = 0.050) compared to white women. Hispanic/Latina women were no more or less likely to be pregnancy ambivalent than white, non-Hispanic women. Furthermore, the model showed no observable relationships between either the frequency of family planning care or the location in which family planning care was delivered and whether or not a woman reported pregnancy ambivalence (Table 2).

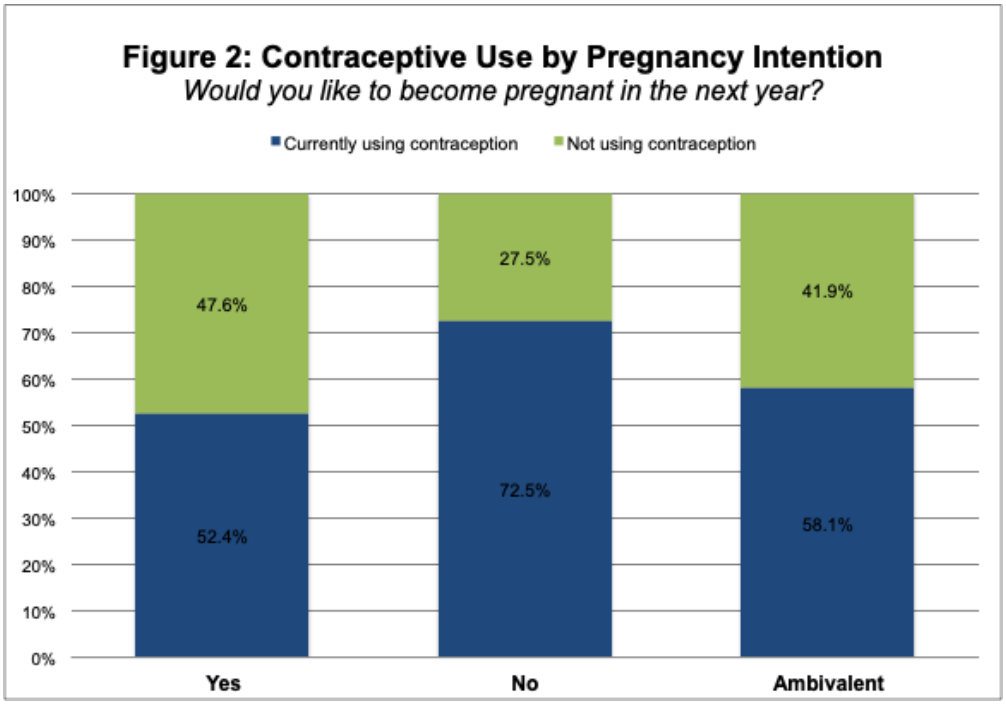
Table 2: Multivariate Regression for Pregnancy Ambivalence (n=1,395)	Odds Ratio	Std. Error	P-value	
Age Category				
18-24 years	1.663	0.496	0.089	
25-34 years	1.368	0.337	0.203	
35-44 years (reference)	1.000	---	---	
Relationship Status				
Married	1.772	0.441	0.022	*
Not married but living with partner	2.106	0.481	0.001	**
Single (reference)	1.000	---	---	
Number of Children	0.884	.0.074	0.142	
Insurance Status				
Uninsured	0.773	0.220	0.336	
Insurance Type				
Medicaid	1.637	0.363	0.027	*
Other public	0.695	0.370	0.494	
Private insurance (reference)	1.000	---	---	
Race/Ethnicity				
Black	1.009	0.260	0.971	
Asian	0.075	0.081	0.017	**
Native Hawaiian or Other Pacific Islander	1.160	1.321	0.896	
American Indian or Alaska Native	2.095	0.789	0.050	*
White (reference)	1.000	---	---	
Hispanic/Latina	0.956	0.208	0.836	
Non-Hispanic/Latina (reference)	1.000	---	---	
Survey Language				
Spanish	1.124	0.341	0.700	
English (reference)	1.000	---	---	
Most Recent Family Planning Visit				
Within last 12 months	0.571	0.193	0.097	
Within 1-3 years	0.977	0.348	0.947	
Within 3-5 years	1.318	0.652	0.577	
More than 5 years ago (reference)	1.000	---	---	
Location of Most Recent Family Planning Visit				
A Community Health Center (CHC)	1.328	0.282	0.198	
A Family Planning Clinic	1.130	0.322	0.670	
Somewhere Else (reference)	1.000	---	---	

* p-value < 0.05
** p-value < 0.01

Contraceptive Use

Among survey respondents, 68.2% reported that they currently used contraception at the time of the survey, with nearly 1-in-3 women reporting no contraceptive use. These rates differed by respondents' pregnancy intention (Figure 2). Notably, about half of women who responded "yes" to the One Key Question® reported using some form of contraception (52.4%) while 72.5% of those responding "no" reported contraceptive use. Even so, 27.5% of women who expressly did not want to become pregnant in the next year reported not using a contraceptive method at the time of the survey. The rate of non-contraception was even higher among women who were pregnancy ambivalent (41.9%) compared with those who reported discrete pregnancy intentions (30.7%; p-value = 0.006).

p-value < 0.05



Factors Associated with Contraceptive Use

These relationships were also observed in subsequent regression models using contraceptive utilization as the dependent variable (Table 3). The relationship between pregnancy intention and contraceptive behaviors were underscored in the regression model, with those aiming to avoid pregnancy being nearly 3 times more likely to use contraception than women aiming to become pregnant (p-value < 0.001). However, pregnancy ambivalent women were not significantly different than women actively seeking pregnancy when it came to current contraceptive use. The recency of one's last visit for family planning services was significant in the model, with women who had received family planning care within the last year (OR 3.90, p-value <0.001), within the last 3-5 years (OR 2.99, p-value = 0.001) or within the last 5 years (OR 3.51, p-value = 0.004) more likely to use contraception than women who had not received family planning care in the last five years. The location of family planning care also played a role, with women who had received their last family planning visit in a community health center (OR 1.46, p-value = 0.043) or in a Title X grantee clinic (OR 1.93, p-value = 0.012) being significantly more likely to use contraception than respondents who reported receiving their family planning care somewhere else, such as a health department or private practice. Other barriers to contraceptive use also appeared in the model, with insured women being 1.74 times more likely than uninsured women to use contraception (p-value = 0.0018), although type of insurance did not appear to play a role. No observable differences by race/ethnicity or language were detected.

Table 3: Multivariate Regression for Contraceptive Use (n=1,370)	Odds Ratio	Std. Error	P-value	
Stated Pregnancy Intention				
Does not want to become pregnant	2.984	0.765	<0.001	**
Pregnancy ambivalent	1.518	0.466	0.155	
Would like to become pregnant (reference	1.000	---	---	
Age Category				
18-24 years	0.988	0.276	0.964	
25-34 years	1.429	0.324	0.115	
35-44 years (reference)	1.000	---	---	
Relationship Status				
Married	1.438	0.321	0.105	
Not married but living with partner	1.302	0.292	0.239	
Single (reference)	1.000	---	---	
Number of Children	1.056	0.084	0.493	
Insurance Status				
Any Insurance	1.740	0.406	0.018	*
Insurance Type				
Medicaid	0.716	0.145	0.099	
Other public	1.319	0.658	0.579	
Private Insurance (reference)	1.000	---	---	
Race/Ethnicity				
Black	0.845	0.178	0.424	
Asian	2.563	2.372	0.309	
Native Hawaiian or Other Pacific Islander	0.830	0.929	0.868	
American Indian or Alaska Native	1.021	0.351	0.951	
White (reference)	1.000	---	---	
Hispanic/Latina	0.980	0.216	0.928	
Non-Hispanic/Latina (reference)	1.000	---	---	
Survey Language				
Spanish	1.326	0.378	0.322	
English (reference)	1.000	---	---	
Most Recent Family Planning Visit				
Within last 12 months	3.990	1.126	<0.001	**
Within 1-3 years	2.994	0.960	0.001	**
Within 3-5 years	3.511	1.527	0.004	**
More than 5 years ago (reference)	1.000	---	---	
Location of Most Recent Family Planning Visit				
A Community Health Center (CHC)	1.459	0.272	0.043	*

A Family Planning Clinic	1.927	0.500	0.012	*
Somewhere Else (reference)	1.000	---	---	

* p-value < 0.05
** p-value < 0.01

Pregnancy ambivalence was not associated with type of contraceptive method, generally, with one clear exception: women who reported pregnancy ambivalence are more likely to rely on the least effective methods of contraception, including spermicides, the emergency contraceptive pill and/or natural family planning methods compared with women who have discrete pregnancy intentions (p-value = 0.001).

Discussion

The majority of women at CHCs affirm that they do not intend to become pregnant over the next year. Yet even with strong preferences to avoid pregnancy, a substantial proportion of them reported not using a contraceptive method. Nearly 1-in-4 women reported some degree of pregnancy ambivalence, with higher proportions among those who were married or living with a partner, some racial/ethnic minorities, and those who use Medicaid for payment. The study's models demonstrated that contraceptive use was associated with pregnancy intention, and that those who are pregnancy ambivalent appear to use contraception at similar rates to those women who are actively seeking to become pregnant. Women who have insurance, who receive regular family planning care, and who receive it at either CHC or Title X family planning clinics are more likely to be using contraception, overall. Among those using contraception, women who

express pregnancy ambivalence are more likely to choose the contraceptive methods that are considered the least effective (CDC, 2011). These findings emphasize the prior literature suggesting that pregnancy ambivalent women may experience increased risk for unintended pregnancy and supports the reproductive life planning approach endorsed by the CDC and OPA guidelines.

Limitations

The limitations of this paper stem predominantly from the sampling strategy employed in this study. This study recruited women at 19 CHC sites, and although the sample was adjusted to align with national health center population characteristics, it cannot be considered nationally representative due to the non-probability sampling technique used in this study. We asked sites to continue enrolling patients until the quota of 100 complete surveys was obtained and these respondents were selected from an unknown proportion of the overall eligible population served in the study period. Furthermore, the interpretation of this study's findings cannot extend generalizability to all low-income or underserved women due to the fact that women in this study represent those already receiving care in CHCs and not in other settings or those who are unable to access care at all. Additionally, the survey instrument gathers self-report data, which may differ from actual service utilization or medical records. The survey did not ask about sexual activity, which may bias the estimate of those women who are at risk of unintended pregnancy. Only English and Spanish languages were represented in the survey instrument.

Another important consideration to underscore is that the relationship between pregnancy intentions and contraceptive behavior is complex and may be mediated by multiple factors, including partners' intentions, social capital, self-efficacy and other related confounders that are not comprehensively accounted for here (Borrero et al., 2015; Gómez et al., 2019.) We agree with emerging conceptual frameworks toward multifaceted women-centered strategies for unintended pregnancy prevention that consider these factors and that underscore a holistic approach to investigating women's pregnancy intentions, ambivalence, and family planning behaviors (Aiken, Borrero, Callegari, & Dehlendorf, 2016).

Contributions

The findings contained in this study indicate that many of the women who express some form of pregnancy ambivalence appear to have contraceptive use patterns similar to those who intend to become pregnant in the next year, and may experience an increased risk for unintended pregnancy if such ambivalence is neither identified, nor linked with appropriate information, counseling, and services that would effectively support women in such circumstances. Understanding the correlates of pregnancy ambivalence and the contraceptive behaviors associated with it among this particular patient population is essential for CHC providers to respond appropriately to the reproductive health needs of the communities they serve. Consistent with their mission to respond to local community contexts, CHCs play an important role in delivering comprehensive patient-

centered care that must include an assessment of pregnancy intentions (to the extent that patients are able to articulate them) and tailoring of care to meet the unique needs of their patients. This study is the first of its kind to collect pregnancy intention and patient experience directly from CHC patient populations, and offers key insight in the wave of high profile federal and state policy changes to the reproductive health landscape. The March 2019 changes to the Title X federal family planning program have left many unanswered questions about how CHCs and other providers will be able to respond to the constrained regulations and the presumed influx of patient demand for their services as other family planning providers are excluded (Kaiser Family Foundation, 2018; Rosenbaum et al., 2018). Indeed, a 2018 study of family planning service delivery in CHCs found that half of them already reported an increased demand for family planning care, with only 18% of CHCs prepared to absorb a major or significant caseload increase. CHC settings continue to remain a major source of care for vulnerable patients, including the nearly 1-in-3 low-income women of reproductive served in health centers in 2016 (Kaiser Family Foundation, 2018). Yet, the uncertainty about how these changes impact patient-level experience, pregnancy intentions, and community-level needs for family planning care warrants more attention, especially as CHCs may be called upon to fill the anticipated increase in demand for family planning services as a result of the pending regulatory changes that threaten the overall Title X family planning program. This study aims to lend a critical perspective to the discussion on access to and quality of family planning care that reflect

patients' expressed intentions and need for comprehensive services in predominantly low-income communities.

Conclusion

This study supports the value of assessing pregnancy intention in advance of pregnancy, consistent with the 2014 Quality Family Planning guidelines and subsequent recommendations issued by the CDC and OPA. In settings such as CHCs, regular assessment of pregnancy intention as a component of reproductive life planning should also lead providers to have engaged conversations with patients about contraceptive options, pre-conception care, or other patient-centered services that align with their unique values, preferences, and needs. Ambivalence and lack of contraceptive use may be a reflection of conflicting concerns, social norms and values, or a need for comprehensive health education and access to services that account for the patients' sociocultural and other vital considerations. Regardless of her pregnancy goal, every woman should have access to health systems that are equipped to screen for family planning needs and offer care that aligns with her reproductive health goals, in an effort to improve reproductive health outcomes on a population level.

Conflict of Interest to Declare

The authors have no conflicts of interest to disclose.

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